Winter 2005

CEG 220-01: Introduction to C Programming for Engineers

Robert Helt
Wright State University - Main Campus

Syllabus
CEG 220 Introduction to C Programming for Engineers
Section 1 - Winter 2005

MW 6:05 – 7:20 p.m. in Russ Engineering Center Room RC144

Description: This course provides a general introduction to computers as a problem-solving tool using the C programming language. Emphasis is on algorithms and techniques useful to engineers. Topics include data representation, debugging, and program verification. 4 credit hours. Prerequisite: MTH 229 (Calculus I).

Instructor: Robert Helt, Russ Engineering Center Room RC160 (Student Lounge Area) E-mail: rhelt@cs.wright.edu Hours: 4:15 to 6:00 p.m. MW or immediately following class. Other hours arranged by appointment through email requests.

Textbooks:

Engineering Problem Solving with C, Third Edition, D. M. Etter, Prentice Hall, 2004. (Required)
Programming with C Second Edition – Schaum's Outlines, Byron Gottfried, McGraw-Hill, 1996. (Optional)

Software: Visual C++ 6, Microsoft Corp. Available in on-campus computer labs (Russ Engineering Center RC152C). Students may checkout software media from the Dunbar Library for installation of Visual C++ on a home PC after signing a licensing agreement. Alternate C compiler is UNIX GNU C compiler. Other C compilers must be approved by the instructor.

Grading:

Programming Projects: Programming projects are assigned on Monday. Each project is due the following Monday, one week from when it was assigned. Each programming assignment is worth 10 points. Programming assignments will be graded as ***Satisfactory*** or ***Unsatisfactory!*** For a project to be satisfactory, 1) the source code file must contain the required header information, 2) the source code must meet style and documentation guidelines, 3) the program must compile and run without warnings or errors, 4) and the program achieves all the objectives of the project. If a project is graded as satisfactory, seven to ten points will be awarded, depending on how well the project is planned and implemented and conforms to the four standards cited above. Each time a programming project is the is turned in and is graded as unsatisfactory, one point will be lost. Unsatisfactory projects must be resubmitted not lather than **midnight** two days after it is returned. If any portion of the assignment is turned in late, one point will be lost for each day it is late. Any unsatisfactory assignment that is finally graded satisfactory will not be worth less than 6 points. The programming projects will comprise 25% of the grade. **All six projects must be completed with a grade of *Satisfactory* to pass the course!**

Examinations: There will be two **45-Minute Exams** that will comprise 40% of the final grade. There will be one **Comprehensive Final Exam** worth 35% of the final grade. All exams will be closed book, closed notes, no electronic devices in view.

Grades: **A:** 100-90, **B:** 89-80, **C:** 79-70, **D:** 69-60, **F:** 59-0 or all programming projects not completed with a grade of ***Satisfactory***.

Policy: All **programming projects** will be turned in electronically by email and are due before **midnight** on the dates specified. See the **CEG220 Home Page** for detailed requirements and instructions for turning in programming projects. No make-up exams will be given unless a serious illness or a bonified emergency can be verified. Exceptions to the policy for turning in work late and giving make-up exams may be made in unusual circumstances when the student provides documentation in writing from an appropriate source. **All work must be your own; copying or sharing program code will constitute a breach of academic integrity and could result in failure of the course for all individuals involved.** Sharing programming ideas and general computer skills with others outside of class is encouraged, especially through the **CEG220 News Group** @ "wright.ceg.220".

CEG220 Section 1 Home Page: http://www.cs.wright.edu/~rhelt/ceg220/ceg220.html

Schedule: Topics and lecture dates may vary. Programming project due dates and exam dates are firm.

Week	Topics - Readings in Etter & Ingber - Project Dues Dates - Exams
1	Introduction to Computers and Engineering Problem Solving - Chapter 1
2	Simple C Programs - Chapter 2
3	Control Structures and Data Files - Start Chapter 3 - **Programming Project No. 1 due on 18 January**
4	Control Structures and Data Files - Finish Chapter 3 - **Programming Project No. 2 due on 25 January - Exam No. 1 on 27 January**
5	Modular Programming with Functions - Chapter 4
6	Arrays and Matrices - Start Chapter 5 - **Programming Project No. 3 due on 8 February**
7	Arrays, Matrices, and Strings - Finish Chapter 5 - **Programming Project No. 4 due on 15 February - Exam No. 2 on 17 February**
8	Pointers - Chapter 6
9	Recursion and Structures - Chapter 4.9, Start Chapter 7 - **Programming Project No. 5 due on 1 March**
10	Structures - Finish Chapter 7 and Course Review - **Programming Project No. 6 due on 8 March**
	Final Exam on Thursday, 17 March, 8:00 p.m. – 10:00 p.m., Russ Engineering Center Room RC144